IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Docket No: Q67651
Giorgio BARZAGHI, et al.	
Appln. No.: 10/006,583	Group Art Unit: 2112
Confirmation No.: 3491	Examiner: Clifford H. KNOLL
Filed: December 10, 2001	

For: METHOD OF PROVIDING COMMUNICATION IN DISTRIBUTED SYSTEMS

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

I. REAL PARTY IN INTEREST

The real party in interest is Alcatel Lucent.

II.   RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III.   STATUS OF CLAIMS

Claims 1-12 and 14 are pending.

Claim 14 is rejected under 35 USC 101 as being directed to non-statutory subject matter.

Claims 1-9, 11 and 14 are rejected under 35 USC 102(e) as anticipated by Ludtke (USP 6,496,860).

Claims 10 and 12 are rejected under 35 USC 103(a) as unpatentable over Ludtke in view of Zintel (6,779,004).

The rejections of all claims appealed.

IV.   STATUS OF AMENDMENTS

There were no amendments filed subsequent to the final Office action mailed April 2,

2007.

V.   SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention is directed to an arrangement whereby controllers (C1-Cn in Fig. 1)

within a control apparatus (APP) and all connected to a master controller (CONT) via a common

bus (BUS), communicate with one another during the course of their controlling of respective

peripheral units. As described beginning at the second full paragraph of page 4 of the

specification, the control units (C1-Cn) send messages (M) to one another. The messages M

may contain "SET" information (Fig. 2 and third paragraph of page 4) which the control unit has

acquired from its peripheral unit and which it makes available to other control units for purposes

of controlling their respective peripheral units, or the messages may contain "GET" information

(Fig. 2 and fourth paragraph of page 4) which is information acquired from another control unit.

In accordance with the invention, and as described in the paragraph bridging pages 4-5, each

control unit (C1-Cn) sends information to the master controller regarding data consumed by or

provided by the peripheral unit controlled by that control unit. A further aspect of the operation,

described in the first full paragraph of page 5, is that each control unit (CONT) spontaneously

sends a message (M) to other control units whenever it detects a variation of the data provided by

a peripheral unit under its control.

In the context of independent claim 1, the two control units are C1-Cn of Fig. 1, the

control apparatus is APP, the master controller is CONT, the common bus is BUS, the peripheral

units are PER#1-PER#n, the control unit submitting information concerning data consumed and

provided by the peripheral units controlled by each control unit is shown at M and described in

the paragraph bridging pages 4-5, and each control unit spontaneously sending a message M over

the bus whenever the data provided by at least one of the peripheral units varies is described in the first full paragraph of page 5.

In the context of independent claim 11, the apparatus for controlling is shown at APP, the peripheral units a PER#1-PER#n, the control units are C1-Cn, the common bus is BUS, the master controller is CONT, and the means for submitting and means for simultaneously sending are the software described at the second full paragraph of page 7, performing the submission and spontaneous sending described at the paragraph bridging pages 4-5 and the first full paragraph of page 5.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are:

1. Whether claim 14 is outside of the scope of 35 USC 101.

2. Whether claims 1-9, 11 and 14 are anticipated by Ludtke.

3. Whether claims 10 and 12 are unpatentable over Ludtke in view of Zintel.

VII.   ARGUMENT

1. Claim 14 Is Directed To Statutory Subject Matter Under 35 USC 101

Claim 14 is directed to a computer readable medium having a stored program thereon.

MPEP 2106.01 begins by discussing "functional descriptive material" and "non-functional

descriptive material, nad provides the following guideline:

> Both types of "descriptive material" are nonstatutory when claimed as descriptive
> material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive
> material is recorded on some computer-readable medium, it becomes structurally and
> functionally interrelated to the medium and will be statutory in most cases since use of
> technology permits the function of the descriptive material to be realized. Compare *In re
> Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing
> patentable weight of data structure limitations in the context of a statutory claim to a data
> structure stored on a computer readable medium that increases computer efficiency) and
> >*In re< Warmerdam*, 33 F.3d *>1354,< 1360-61, 31 USPQ2d *>1754,< 1759 (claim to
> computer having a specific data structure stored in memory held statutory product-by-
> process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data
> structure *per se* held nonstatutory).

Claim 14 follows exactly the format described in the MPEP as statutory, i.e., functional

descriptive material recorded on a computer-readable medium. The issue cannot be more clear,

and the examiner has been directed to this passage of the MPEP, but he has chosen not to address

how claim 14 can be non-statutory when this passage of the MPEP and the *In re Lowry* clearly

dictate otherwise. Instead, the examiner alleges that claim 14 claims "a disembodied algorithm"

and further dismisses the language about "when said program is run on a computer" as not

positively reciting that the program is actually run or that a method is actually performed, but

instead this statement is dismissed as simply a statement of intended use.

The claim is directed to a computer readable medium having a program stored thereon. It is not directed to a method. A computer readable medium is an article of manufacture under 35 USC 101, and that ends the issue of whether it is statutory subject matter under 35 USC 101. A computer readable medium is not a disembodied algorithm, nor is it a statement of intended use. Whether or not the statutory computer readable medium carries a disembodied algorithm does not change the fact that the medium itself is statutory subject matter. What the examiner is doing is applying a "point of novelty" approach to determining statutory subject matter, an analysis that was discredited over twenty-five years ago by both the Supreme Court in *Diamond v. Diehr*, 450 US 175 (1981) and the Court of Customs and Patent Appeals in *In re Taner*, 68 F.2d 787, 791 (CCPA 1982).

As to the alleged statement of intended use, it is noted that the MPEP draws a clear distinction between functional and non-functional descriptive material. Describing that a computer program when executed will cause certain things to happen is a well-accepted way of defining it as functional and thereby satisfying the MPEP requirements for statutory subject matter.

For the above reasons, reversal of the rejection of claim 14 under 35 USC 101 is clearly appropriate, and is requested.

2.   Claims 1-9, 11 And 14 Are Not Anticipated By Ludtke

The present invention is directed to an arrangement whereby controllers within a control apparatus and all connected to a master controller via a common bus, communicate with one

another during the course of their controlling of respective peripheral units. In accordance with the invention, each control unit sends information to the master controller regarding data consumed by or provided by the peripheral unit controlled by that control unit. A further aspect of the operation is that each control unit spontaneously sends a message to other control units whenever it detects a variation of the data provided by a peripheral unit under its control.

Ludtke is directed to a "media manager" for controlling autonomous media devices within a network environment. A plurality of devices such as a video camera, VCR, television, set top box and computer are connected together over a common bus. According to the analysis offered by the examiner, the components such as 12 and 13 are the control units and the media manager of Ludtke corresponds to the claimed master controller. However, claim 1 requires that the plurality of control units make up a single control apparatus. The components 12 and 13 in Ludtke are not parts of a single control apparatus. This alone warrants reversal of the anticipation rejection.

Further, Ludtke is in the field of audio/video applications. In such a patent, a single Media Manager with user interface has to control a number of Audio/Video devices through a common software (SW) interface. The format of data in the system is not homogeneous. In addition, converters should be provided in the Media Manager for adapting the data format. In order to perform such conversions and for allowing the communication between the various devices, the Media Manager has to establish connections between such devices and has to make a topological map of the network.

Such a network is not managed in a distributed mode. In fact, the intervention of the Media Manager is always needed for establishing the connections between the devices and the Media Manager. The object of Ludtke is providing a set of generic drivers for A/V products to the Media Manager. In this way, a "logic" management of A/V devices is provided to each user, without connection to the particular features of each of said devices.

In the present invention, the distributed control characteristics are highly exploited. The various Agents act as providers (or consumers) of information. The information is formatted and homogeneous without external interventions. Therefore, in contrast to Ludtke, a Media Manager managing the whole network is not needed.

In the Advisory Action, the examiner dismisses all of the above distinguishing arguments as being directed to limitations (e.g., homogeneous data format, distributed control characteristics) not recited in the claims. But the examiner misses the point. The above arguments are to point out why the Ludtke system cannot be distributively controlled but instead requires the central control and constant intervention of the Media Manager. In contrast to this, the present invention uses distributive control. For this argument to be valid, it is not necessary that the claims require homogeneous data, but only that the claims recite features not found in or necessary in a system such as Ludtke which requires a centrally-controlling Media Manager. When one examines carefully the detailed support for the rejection offered by the examiner, it becomes apparent that the analysis fails.

A first point to note is that claim 1 is directed to a method of providing communication between control units. This is something critical in distributed control, but not in central control.

In a distributed control system, the control units are communicating with one another about their respective peripheral units, but in a central control system all data flows back to the central controller. As will be discussed below, it is not clear exactly what is supposed to be the control units and peripheral devices in Ludtke according to the claim reading of the examiner, but there is no need for the control units to communicate with one another, which is the fundamental concept to which the present claims are directed.

Looking at the allegations of the examiner in more detail, the examiner first refers to the devices 12 and 13 of Ludtke as the claimed two control units, but 12 and 13 are a VCR and a set-top box, i.e., devices *being controlled*, not control units themselves. If these are indeed supposed to correspond to the claimed control units, the examiner must identify a peripheral unit controlled by each of the VCR 12 or set-top box 13. There are none. What is really happening in Ludtke is that the devices 12 and 13 are controlled by device control modules, but these are software modules within the media manager and are not connected to the control unit via a common bus.

In the Advisory Action, the examiner responds to this deficiency by asserting that the act of "allowing the video cassette recorder to send data to the computer 14 for display" (described at lines 59-61 of col. 3 of Ludtke) is an act of controlling a peripheral unit. But the "unit" being controlled here is the VCR, which is allowed to send data. So in order to force the claim language to read on Ludtke, the examiner has considered the VCR as a claimed "peripheral unit," and then lacking anything else he can point to as a control unit, the examiner considers the VCR to also be the control unit.

It appears that the examiner may be reading the claimed "control unit" on some internal part of the VCR that may control a function of the VCR, and then reads the claimed "peripheral unit" on some other internal part of the VCR which performs the function being controlled. It is submitted that this is a reading of the claim that would not be apparent to anyone of ordinary skill in the art and is therefore by definition not the correct construction of the claim. And while the examiner may be permitted to interpret the claims as broad as is reasonable, it is submitted that this is not a "reasonable" interpretation of the claim.

The examiner cites to lines 32-37 of column 3 as supporting his assertion that Ludtke teaches each control unit providing to the master controller information about data provided or consumed by the peripheral device controlled by the control unit, but the cited passage simply describes that the media manager decides if data to be transmitted to a particular physical device needs to be translated. This has nothing to do with the claimed feature for which it is quoted. And having earlier identified the VCR 12 and set-top box 13 as the claimed control units, to satisfy the claim language the examiner should identify someplace in Ludtke which describes the VCR sending to the media manager information regarding data consumed and provided by a peripheral unit controlled by the VCR. There is no such description in Ludtke.

The examiner further refers to lines 17-20 of column 9, which describe that all normal events generated by a device go through the DCM to the event manager. But the DCM is not what the examiner has identified as the claimed control unit. And if the DCM is to be the claimed control unit, there is the problem that it is not coupled to the media manager via a common bus that also connects the various DCM's to one another. In the Advisory Action, the

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examiner has conceded that it is true that the DCM is not considered the claimed control unit, that whether information eventually finds its way to the DCM is irrelevant. The examiner states that the entire discussion of the DCM was offered to support the submission of "information concerning." Appellants do not understand what support it provides.

The examiner cites to lines 24-27 of column 10 for a teaching of the spontaneous sending of a message over the bus whenever data provided by a peripheral unit varies. However, this passage of column 10 simply describes the event manager 62 sending information to a DCM to tell the DCM what user input is occurring so that the DCM can control its device in accordance with the user input. This is not a discussion of the DCM sending messages onto a bus. And in any event the DCM is not what the examiner has identified as the claimed control unit, and could not because the DCM does not satisfy the claimed requirements for the control unit. And the examiner has also not identified the "event manager" 62 of Ludtke as the claimed control unit. Thus, a discussion in Ludtke of an event manager sending information to the DCM cannot possibly be anticipatory of a limitation in claim 1 as to information sent by a control unit.

Claim 11 includes the same distinguishing features found in claim 1, and is not anticipated for the same reasons.

The dependent claims rejected in paragraph 2 of the Office action are allowable due to dependence on allowable claim 1. However, there are a number of features recited in these claims which are not taught by Ludtke, particularly when claim 1 is properly interpreted to be directed to a plurality of control units all contained within a control apparatus.

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For example, claim 2 recites that each control unit sends to a master controller information regarding the structure of messages to be used by that control unit. This is not taught by Ludtke. The examiner simply refers to language in Ludtke regarding the passing of events through the event manager, but there is nothing discussed regarding sending information regarding message structure itself. This is particularly novel in the context of a plurality of control units all part of the same control apparatus.

Claim 3 recites that each control unit has a respective address. It may well be that the different physical devices in Ludtke could have respective addresses, but "could have" does not warrant an anticipation rejection. Further, claim 3 is describing a bus within a single apparatus and the assigning of different addresses to different parts of a single control apparatus.

Regarding claim 6, it is not true that a time stamp is the same as a counter. A counter counts messages, while a time stamp counts time. If a message is received where the counter value is not the next sequential count value, the system can know that a message was missed, but this is not possible with a time stamp.

For at least the above reasons, it is submitted that the examiner has not presented a prima facie case of anticipation by Ludtke, and the rejection of claims 1-9, 11 and 14 should be reversed.

3. **Claims 10 and 12 are not unpatentable over Ludtke in view of Zintel**

Claims 10 and 12 are dependent on claims 1 and 11. Zintel does not make up for the deficiencies in the teaching of Ludtke with regard to the features missing in Ludtke as discussed above. Accordingly, claims 10 and 12 are allowable due to their dependence on claims 1 and 11.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CLAIMS APPENDIX

CLAIMS 1-12, 14 ON APPEAL:

    1.   A method of providing communication between at least two control units of a

control apparatus, said control apparatus comprising a master controller and said at least two

control units connected to each other and to said master controller through a common bus,

wherein the control apparatus controls at least two peripheral units, wherein the method

comprises the step of:

        controlling the at least two peripheral units to provide data essential to the

    operation of the peripheral units and to detect possible data variations in the peripheral

    units, wherein each control unit:

        submits information concerning data consumed and provided by the

    peripheral units controlled by said each control unit to said master control; and

        spontaneously sends message over the bus whenever the data provided by

    at least one of the peripheral units varies.

    2.   A method according to claim 1, wherein the step of submitting information to the

master controller comprises the step of each control unit transmitting to the master controller a

structure of its own message comprising at least one of information provided and information

received and used.

3.   A method according to claim 1, wherein it further comprises the step of assigning a suitable address to each of said control units.

4.   A method according to claim 1 wherein the step of spontaneously sending a message comprises sending a message comprising a first portion and a second portion, said first message portion comprising information concerning the control unit that has detected a data variation in the data of at least one peripheral unit controlled thereby and information concerning control units that will consume the data in the sent message.

5.   A method according to claim 4, wherein the information concerning the control units that will consume the data in the sent message comprise a logic address for representing a group of control units consuming the same data item.

6.   A method according to claim 1, wherein it comprises the additional step of providing each control unit with a counter that counts forward by a predetermined amount at each message sent by said each control unit.

7.   A method according to claim 6, wherein it further comprises the step of writing the value of said counter into every message that is sent by said each control unit.

8.   A method according to claim 1, wherein the step of spontaneously sending a message comprises sending a message comprising at least one control bit to control regularity of the information exchange.

9.   A method according to claim 1, wherein further comprising the step of disabling said master controller after having established the communication between said control units.

10.   A method according to claim 1, wherein said peripheral units are devices for receiving, transmitting and processing signals in radio link systems.

11.   An apparatus for controlling two or more peripheral units, the apparatus comprising:

     at least two control units, each control unit controlling at least one peripheral unit of the device to provide data necessary for the operation of the peripheral unit and detect possible data variations of said peripheral unit;

     a common bus for connecting said two or more control units; and

     a master controller connected to the common bus,

wherein each control unit comprises:

          means for submitting, to said master controller, information concerning data consumed and provided by the peripheral unit controlled by a respective control unit; and

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means for spontaneously sending a message in response to a variation of data provided by a peripheral unit controlled by a respective control unit.

12.   An apparatus according to claim 11, wherein said peripheral units are devices for receiving, transmitting and processing signals in radio link systems.

Claim 13   (Canceled)

14.   A computer-readable medium having a program recorded thereon, said computer readable medium comprising computer program code adapted to perform the steps of the method according to claim 1 when said program is run on a computer.

EVIDENCE APPENDIX:

There is no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

RELATED PROCEEDINGS APPENDIX

There are no decisions rendered by a court or the Board in any proceeding identified

about in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).